What is claimed is:

1. An antibody having specificity to a LAR phosphatase subunit.

2. An antibody having specificity to an intracellular domain of a LAR phosphatase subunit.

3. An antibody having specificity to an intracellular domain of a LAR phosphatase subunit, and having no specificity to CD45.

4. The antibody according to any of claims 1-3, which is generated using a polypeptide encoded by a base sequence set out in SEQ ID NO: 1 or a fragment of said polypeptide as an antigen.

5. The antibody according to any of claims 1-4 wherein the antibody is a monoclonal antibody.

6. The antibody according to any of claims 1-5 wherein the antibody is generated using a fusion protein comprising a LAR phosphatase domain and another protein or a polypeptide fragment as an immunogen.

7. The antibody according to any of claims 1-5 wherein the antibody is generated using a GST-LAR phosphatase domain fusion protein as an immunogen.

8. The antibody according to claim 7 wherein the GST-LAR phosphatase domain fusion protein is produced by: culturing *Escherichia coli* transformed or transfected with an expression vector comprising a coding region of GST gene and a coding region of a phosphatase domain of LAR gene at 20-30°C for 16-24 hours; and isolating the fusion protein from the culture fluid and/or bacterial cells.

9. The antibody according to claim 8 wherein the GST-LAR phosphatase domain fusion protein is further purified based on an affinity to a support carrying glutathione wherein the elution of said fusion protein from the support is performed by boiling in the presence of a detergent.

10. The antibody according to any of claims 6-9 wherein the antibody that

was generated using the fusion protein as an immunogen is screened using said fusion protein.

11. A monoclonal antibody having specificity to a LAR phosphatase subunit, which is produced by a hybridoma with Accession No. FERM BP-6343.

12. The antibody according to any of claims 5-11 having a molecular weight of about 150 kDa.

13. A hybridoma cell line that produces the antibody according to any of claims 5-10 and 12.

14. A hybridoma cell line with Accession No. FERM BP-6343.

15. A method for generating an antibody having specificity to a LAR phosphatase subunit wherein a fusion protein comprising a LAR phosphatase domain and another protein or a polypeptide fragment is used as an immunogen.

16. A method for generating an antibody having specificity to a LAR phosphatase subunit wherein a GST-LAR phosphatase domain fusion protein is used as an immunogen.

17. The method according to claim 16 wherein the GST-LAR phosphatase domain fusion protein is produced by: culturing *Escherichia coli* transformed or transfected with an expression vector comprising a coding region of GST gene and a coding region of a phosphatase domain of LAR gene at 20-30°C for 16-24 hours; and isolating the fusion protein from the culture fluid and/or bacterial cells.

18. The method according to claim 17 wherein the GST-LAR phosphatase domain fusion protein is further purified based on an affinity to a support carrying glutathione wherein the elution of said fusion protein from the support is performed by boiling in the presence of a detergent.

19. The method according to any of claims 15-18 wherein the antibody that was generated using the fusion protein as an immunogen is screened using said

fusion protein.

20. A method of quantitative determination of LAR and/or LAR derived molecules comprising the step of:

determining an amount of LAR protein and/or a fragment or a polypeptide that comprises at least a LAR intracellular domain, which is contained in a test sample using the antibody according to any of claims 1-12.

21. The method according to claim 20 wherein the antibody is used in any of immunoblotting, immunoprecipitation and ELISA.

22. A method for quantitative determination of LAR and/or LAR derived molecules comprising the steps of:

isolating LAR and/or a fragment or a polypeptide that comprises at least a LAR intracellular domain, from a test sample using the antibody according to any of claims 1-12; and

measuring an activity of the isolated LAR and/or LAR derived molecules.

23. The method according to claim 22 wherein affinity chromatography and/or immunoprecipitation by using a support that was bound with the antibody are utilized in the isolation step.

24. A method for producing LAR and/or LAR derived molecules comprising the step of:

isolating LAR protein and/or a fragment or a polypeptide that comprises at least a LAR intracellular domain using the antibody according to any of claims 1-12.

25. The method according to claim 24 wherein affinity chromatography and/or immunoprecipitation by using a support that was bound with the antibody are utilized in the isolation step.

26. A method for identifying the presence of LAR and/or LAR derived molecules within tissue comprising the step of:

performing immunohistological examination using the antibody according to any of claims 1-12 to detect LAR protein and/or a fragment or a polypeptide that comprises at least a LAR intracellular domain.

27. An anti-LAR antibody having specific immunoreactivity to thyroid carcinoma cells.

28. The antibody according to any of claims 1-12 having specific immunoreactivity to thyroid carcinoma cells.

29. A method for diagnosis of thyroid carcinoma comprising the steps of:

taking a thyroid tissue specimen from a subject suspected as suffering from thyroid cancer; and

conducting diagnosis of thyroid cancer through evaluating immunoreactivity between the antibody according to claim 27 or 28 and said tissue specimen.

30. The method according to claim 29 wherein the thyroid tissue specimen is a specimen that is taken by fine needle aspiration, and the immunoreactivity is evaluated by an immunoassay.

31. The method according to claim 29 wherein the thyroid tissue specimen is a thyroid tissue section, and the immunoreactivity is evaluated by histological staining.

32. A composition for histological diagnosis of thyroid carcinoma comprising the antibody according to claim 27 or 28.

33. A DDS formulation that was targeted to thyroid carcinoma cells using the antibody according to claim 27 or 28.

34. The DDS formulation according to claim 33 comprising one or more materials which are selected from a group consisting of a nucleic acid, iodine, radioactive iodine, technetium and a protein.

35. The DDS formulation according to claim 33 or 34 which is a pharmaceutical composition for diagnosis of thyroid carcinoma.

36. The DDS formulation according to claim 33 or 34 which is a pharmaceutical composition for therapy of thyroid carcinoma.

37. The DDS formulation according to claim 36 further comprising an anticancer agent.

38. The DDS formulation according to claim 36 or 37 wherein the nucleic acid is an antisense nucleic acid or a ribozyme.

39. A diagnostic method of thyroid carcinoma wherein a probe for LAR mRNA is used.